AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter wherein the changes are shown by strikethrough or double brackets ([[ ]]) for deleted matter and underlining for added matter.

1. (Previously presented) A compressor unit, comprising:

a centrifugal compressor for compressing a gas and an electric motor having a stator and a rotor for driving the compressor, the compressor and the electric motor being accommodated in a common gastight housing which is provided with a gas inlet and a gas outlet, the stator being accommodated in a separate stator space, which is delimited by a wall section, surrounding the stator, of the housing of the compressor unit, a gastight partition which extends between the stator and the rotor of the electric motor, and at least one end wall which extends between the partition and the housing of the compressor unit, wherein the partition extends freely between the stator and the rotor of the electric motor and comprises a material of sufficiently high strength for it to remain clear of the stator and the rotor under working pressures of the gas which may occur inside the housing, wherein the high-strength material of the partition comprises a fibre-reinforced plastic.

2. (Cancelled)

3. (Previously presented) A compressor unit according to claim 1, in which the partition comprises an erosion-resistant layer on the rotor side.

4. (Previously presented) A compressor unit according to claim 1, in which the partition comprises a gastight layer.

5. (Previously presented) A compressor unit according to claim 1, in which the partition comprises a layer of corrosion-free metal.

6. (Previously presented) A compressor unit according to claim 1, in which the partition comprises a layer of polyaryl ether ketone.

7. (Previously presented) A compressor unit according to claim 1 in which the wall thickness of the partition is greater at the ends than in the middle.

8. (Previously presented) A compressor unit according to claim 1, in which the partition and the end wall are separate parts which are connected to one another in a gastight manner by means of one or more sealing rings.

9. (Previously presented) A compressor unit according to claim 1, in which the stator space is provided with connections to a cooling unit for supplying and discharging a cooling medium.

10. (Previously presented) A compressor unit according to claim 1, in which the partition comprises a separate inner layer and outer layer, on the rotor and stator side, respectively, at least the inner layer having erosion-resistant properties, at least one layer having a high strength and at least one layer being gastight.

11. (Previously presented) A method of producing a partition for a compressor unit, the compressor unit comprising a centrifugal compressor for compressing a gas and an electric motor having a stator and a rotor for driving the compressor, the compressor and the electric motor being accommodated in a common gastight housing which is provided with a gas inlet and a gas outlet, the stator being accommodated in a separate stator space, which is delimited by a wall section, surrounding the stator, of the housing of the compressor unit, a gastight partition which extends between the stator and the rotor of the electric motor, and at least one end wall which extends between the partition and the housing of the compressor unit, wherein the partition extends freely between the stator and the rotor of the electric motor and comprises a material of sufficiently high strength for it to remain clear of the stator and the rotor under working pressures of the gas which may occur inside the housing, wherein the high-strength material of the partition comprises a fibre-reinforced plastic, in which the partition comprises a separate inner layer and outer layer, on the rotor and stator side, respectively, at least the inner layer having erosion-resistant properties, at least one layer having a high strength and at least one layer being gastight, the method comprising:

producing the inner layer and outer layer separately, in the form of an inner shell and an outer shell, the external diameter of the inner shell, under the same pressure and temperature, being larger than the internal diameter of the outer shell;

temporarily increasing the diameter of the outer shell by means of gas or liquid pressure, or temporarily reducing the diameter of the inner shell by lowering the temperature of the inner shell, so that it is possible to push the inner shell into the outer shell; and

restoring the diameter of the outer or inner shell by restoring the pressure of the outer shell or restoring the temperature of the inner shell.

12. (Previously presented) A method of compressing air using a compressor unit, the compressor unit comprising a centrifugal compressor for compressing a gas and an electric motor having a stator and a rotor for driving the compressor, the compressor and the electric motor being accommodated in a common gastight housing which is provided with a gas inlet and a gas outlet, the stator being accommodated in a separate stator space, which is delimited by a wall section, surrounding the stator, of the housing of the compressor unit, a gastight partition which extends between the stator and the rotor of the electric motor, and at least one end wall which extends between the partition and the housing of the compressor unit, wherein the partition extends freely between the stator and the rotor of the electric motor and comprises a material of sufficiently high strength for it to remain clear of the stator and the rotor under working pressures of the gas which may occur inside the housing, wherein the high-strength material of the partition comprises a fibre-reinforced plastic, the method comprising:

compressing gas using the compressor unit.